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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,820	09/22/2006	Kouji Kitahata	AI-431NP	4741
23995 7590 09/29/2009 RABIN & Berdo, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005				
EXAMINER				
OLADAPO, TAIWO				
ART UNIT		PAPER NUMBER		
1797				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/593,820

**Applicant(s)**

KITAHATA ET AL.

**Examiner**

TAIWO OLADAPO

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to because of the following informalities: The claim recites “buffer particles, used when one of both gears is made of a resin.” There is no antecedent basis for the recitation of gears in the claim, or the use of particles in a gear. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Oohira et al. (US 2003/0022797)

4. In regards to claim 1, Oohira teaches a lubricant composition for gears, etc, [0086], comprising a lubricating base oil [0029] and calcium sulfonate [0099] which meets the limitations of the claim. Oohira teaches that the composition also contains fillers such as calcium carbonate [0075]. The combination of calcium sulfonate and calcium carbonate salt in a lubricating oil will act as a thickener complex. The applicant’s specification is used to recite calcium sulfonate and carbonate complexes are thickeners [Applicant’s specification, 0047].

5. In regards to claim 3, Oohira teaches the lubricant composition comprises fine particles of sizes 3 – 8 nm [0064]. The composition also contains fillers such as polyester and polyimide resins [0075]. According to applicant's specification on paragraph [0025], polyester resin and polyimide resin are examples of buffer particles of the invention [Applicant's Specification, 0025]. The functional language limitations for the use of buffer particles in gears are not given patentable weight.
6. In regards to claim 4, Oohira teaches the lubricant having the buffer particles as previously recited.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatani et al. (US 2003/0176298) in view of Aoki et al. (US 5,354,487)

11. In regards to claims 1 – 6, Nakatani teaches a lubricant composition for rolling bearings [title, 0075], comprising a thickener of a calcium sulfonate and calcium carbonate complex and base oil according to the limitations of claim 2 [abstract, 0050]. Nakatani does not recite that the lubricant comprises fine particles.

Aoki teaches solid lubricant additives for use in bearings, and in gear oils, bearing oils and greases as in the invention of Nakatani (column 1 lines 46 – 52). The solid lubricants are cured products having particle sizes of less than 100mm, and are thus fine particles meeting the limitations of claims 1, 4, 5. The fine particles are made of thermoplastic resins such as polyethylene, polyester, polyimide and polyurethane resins which are examples of materials for making the buffer particles in the applicant's specification, paragraph 0025, thus meeting the limitation of claim 3.

Aoki teaches the particles are cured polybutadiene are present in lubricating compositions in the amount of from 0.01 to 50 parts by weight based on 100 parts by weight of the lubricating

oil. Nakatani teaches the thickener composition comprises from 5 to 95% of the calcium sulfonate complex and is present at about 3 to 40% in the lubricant [0053, 0055]. Thus the calcium sulfonate complex is present in the lubricant at about 0.15 to 38%. The percent of particles in the composition of the combined invention will therefore overlap the limitation of claim 6. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have used the particles of Aoki in the bearing oil of Nakatani, as Aoki teaches they are suitable for use in bearing oils or greases.

12. In regards to claim 7, Nakatani and Aoki combined teach the lubricant composition wherein the base oil has a kinematic viscosity of between 50 and 500 mm<sup>2</sup>/s at 40°C (Nakatani, abstract). Since the composition has the same ingredients meeting the limitations of claim 1, it will also have similar mixing consistency at the recited temperature.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO OLADAPO whose telephone number is (571)270-3723. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TO

/Glenn A Caldarola/  
Acting SPE of Art Unit 1797